

## ABSTRACT

5       An amplified laser source for amplifying a laser projection that  
includes a diode laser source modulated by a pulse generator applying an  
alternate high and low voltages higher and lower than a threshold voltage  
for projecting a modulated optical signal. The laser source further  
includes a first erbium-doped fiber (EDF) for amplifying the modulated  
optical signal. The laser source further includes a set of Bragg gratings for  
10   receiving the modulated optical signal from the first EDF for reflecting a  
grating-specific pulse-distortion-reduced optical signal. The laser source  
further includes an electro-absorption (EA) modulator synchronized with  
the pulse generator for increasing an extinction ratio of the optical signals.  
The laser source further includes a second erbium doped fiber (EDF) for  
receiving and amplifying the optical signal from the EA modulator  
15   wherein the second erbium doped fiber (EDF) having a length of several  
meters and a diameter greater than or equal to thirty-five micrometers.